

Dr. Duke's Phytochemical and Ethnobotanical Database

Chemicals Found in Cannabis sativa

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	(-)-BORNEOL	Plant	--	--		
6	ACETALDEHYDE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
3	ACETONE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
3	ALANINE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
20	ALPHA-BISABOLOL	Flower Essent. Oil	--	--		
20	ALPHA-BISABOLOL	Essential Oil	--	--		
20	ALPHA-BISABOLOL	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
1	ARABITOL	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	ARGININE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
112	ASCORBIC-ACID	Seed	--	--	-0.33845664486186666	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
3	ASPARTIC-ACID	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
8	AZELAIC-ACID	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
1	BEHENIC-ACID	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
9	BENZYL-ACETATE	Essential Oil	--	--		
9	BENZYL-ACETATE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
6	BETA-BISABOLENE	Leaf Essent. Oil	--	--		
6	BETA-BISABOLENE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.

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6	BETA-BISABOLENE	Flower Essent. Oil	--	--		
53	BETA-CAROTENE	Seed	--	0.06	-0.4255580240943812	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
35	BORNEOL	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
35	BORNEOL	Resin, Exudate, Sap	--	--		
35	BORNEOL	Essential Oil	--	--		
2	CADAVERINE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
28	CALCIUM	Seed	1200	1389	-0.5064218426303934	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
2	CAMPESTEROL	Root	--	--		
2	CAMPESTEROL	Seed	--	--		
2	CAMPESTEROL	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
9	CAMPHENE	Leaf Essent. Oil	--	--		
9	CAMPHENE	Essential Oil	--	--		
9	CAMPHENE	Plant	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
9	CAMPHENE	Resin, Exudate, Sap	--	--		
9	CAMPHENE	Flower Essent. Oil	--	--		
41	CAMPHOR	Essential Oil	--	--		
41	CAMPHOR	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
41	CAMPHOR	Leaf Essent. Oil	--	--		
1	CANNABICHROMENE	Seed	--	--		
1	CANNABICHROMENE	Bud	--	--		
1	CANNABICHROMENE	Resin, Exudate, Sap	--	--		
1	CANNABICHROMENE	Plant	--	--		
1	CANNABICHROMENE	Shoot	--	--		
1	CANNABICHROMENE	Sprout Seedling	--	--		
1	CANNABICHROMENE	Resin Essent. Oil	--	--		
1	CANNABICHROMENE	Root	--	--		
1	CANNABICHROMENE	Leaf	--	--		
1	CANNABICHROMENE	Inflorescence	--	--		
8	CANNABIDIOL	Inflorescence	--	--		
8	CANNABIDIOL	Seed	--	--		
8	CANNABIDIOL	Bud	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
8	CANNABIDIOL	Fruit	--	20870		
8	CANNABIDIOL	Leaf Essent. Oil	--	--		
8	CANNABIDIOL	Plant	--	--		
8	CANNABIDIOL	Root	--	--		
8	CANNABIDIOL	Resin, Exudate, Sap	--	--		
8	CANNABIDIOL	Shoot	--	--		
8	CANNABIDIOL	Sprout Seedling	--	--		
8	CANNABIDIOL	Leaf	--	--		
3	CANNABIDIOLIC-ACID	Bark	--	--		
3	CANNABIDIOLIC-ACID	Leaf	--	--		
3	CANNABIDIOLIC-ACID	Resin, Exudate, Sap	--	--		
3	CANNABIDIOLIC-ACID	Pollen Or Spore	--	--		
3	CANNABIDIOLIC-ACID	Root	--	--		
3	CANNABIDIOLIC-ACID	Inflorescence	--	--		
3	CANNABIDIOLIC-ACID	Shoot	--	--		
3	CANNABIDIOLIC-ACID	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
3	CANNABIGEROL	Inflorescence	--	--		
3	CANNABIGEROL	Resin, Exudate, Sap	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	CANNABIGEROL	Leaf	--	--		
3	CANNABIGEROL	Sprout Seedling	--	--		
3	CANNABIGEROL	Shoot	--	--		
3	CANNABIGEROL	Root	--	--		
3	CANNABIGEROL	Plant	--	--		
2	CANNABIGEROLIC-ACID	Leaf	--	40		
2	CANNABIGEROLIC-ACID	Inflorescence	--	--		
2	CANNABIGEROLIC-ACID	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
3	CANNABINOL	Leaf	--	--		
3	CANNABINOL	Sprout Seedling	--	--		
3	CANNABINOL	Leaf Essent. Oil	--	--		
3	CANNABINOL	Plant	--	--		
3	CANNABINOL	Root	--	--		
3	CANNABINOL	Seed	--	8		
3	CANNABINOL	Resin, Exudate, Sap	--	--		
3	CANNABINOL	Flower Essent. Oil	--	--		
3	CANNABINOL	Fruit	--	1275		
3	CANNABINOL	Shoot	--	--		

Activity Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
3	CANNABINOL	Bud	--	--		
3	CANNABINOL	Inflorescence	--	--		
3	CANNABINOL	Bark	--	--		
1	CIS-ANETHOLE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
1	CIS-ANETHOLE	Essential Oil	--	--		
2	DELTA-9-TETRAHYDROCANNABINOL	Pollen Or Spore	--	--		
2	DELTA-9-TETRAHYDROCANNABINOL	Trichome	--	--		
2	DELTA-9-TETRAHYDROCANNABINOL	Inflorescence	--	--		
2	DELTA-9-TETRAHYDROCANNABINOL	Plant	--	--		
2	DELTA-9-TETRAHYDROCANNABINOL	Shoot	--	--		
9	DELTA-CADINENE	Essential Oil	--	--		
9	DELTA-CADINENE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
15	FIBER	Seed	165000	206450	0.565927856848296	
1	GLUCOSAMINE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.

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7	HISTIDINE	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
6	IRON	Seed	120	139	-0.05479437162869729	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
1	ISOBUTYRALDEHYDE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
27	LINOLEIC-ACID	Seed	207000	250600	1.229332063524583	
39	NIACIN	Seed	21	24	-0.5653371145111872	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
18	OLEIC-ACID	Seed	44400	53700	-0.5376546816338774	
4	ORIENTIN	Plant	--	--		J.S. Glasby Dict.Plis Containing 2ndary Metabolite. 1991.
7	PHENYLALANINE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
4	PHOSPHORUS	Seed	9700	11227	1.5521640659289466	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	RIBOFLAVIN	Seed	1.7	2	-0.5841625019907875	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses

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16	TETRAHYDROCANNABINOL	Plant	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
31	THIAMIN	Seed	3.2	3.7	-0.6881088248838246	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
8	TRANS-ANETHOLE	Plant	--	--		Turner, C. E., El Sohly, M. A., Boeren, E. G. 1980. Constituents of Cannabis sativa L. XVII. A Review of the Natural Constituents. J Natural Products, 432: 169-234.
8	TRANS-ANETHOLE	Essential Oil	--	--		
15	TRIGONELLINE	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
29	TRYPTOPHAN	Seed	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.